IN THE CLAIMS

1. (currently amended) A ~~P~~polypeptide possessing a CDase activity~~, characterized in that it is~~ derived from a native CDase by addition of an amino acid sequence, with the proviso that said polypeptide has no UPRtase or thymidine kinase activity, wherein the amino acid sequence, added to the native CDase, derives from a polypeptide possessing an UPRTase activity.

2. (currently amended) A ~~P~~polypeptide according to claim 1, wherein the amino acid sequence, added to the native CDase, is linked to the C terminal end of the native CDase.

3. (currently amended) A ~~P~~polypeptide according to ~~one of~~ claim~~s~~ 1 ~~to 2, characterized in that~~ wherein said polypeptide possessing an UPRTase activity derives from a yeast UPRTase, in particular that encoded by the ~~Saccharomyces cerevisiae FUR1~~*Saccharomyces cerevisiae FUR1* gene.

4. (currently amended) A ~~P~~polypeptide according to claim 3, ~~characterized in that~~wherein the amino acid sequence, added to the native CDase, derives from an amino acid sequence which is substantially that depicted in SEQ ID NO:~~ 2 sequence identifier~~, starting at the Ser residue in position 2 and finishing at the Val residue in position 216.

5. (currently amended) A ~~P~~polypeptide according to claim 4, ~~characterized in that~~wherein the amino acid sequence, added to the native CDase, is as depicted in SEQ ID

NO:~~—~~2~~ sequence identifier~~, starting at the Ser residue in position 2 and finishing at the Val residue in position 216.

6. (currently amended) A ~~P~~polypeptide according to ~~one of~~ claim~~s~~ 1~~ to 5~~, ~~characterized in that~~wherein said native CDase is a yeast CDase~~ in particular that encoded by the Saccharomyces cerevisiae FCY1 gene~~.

7. (currently amended) A ~~P~~polypeptide according to claim 6, ~~characterized in that~~wherein the native CDase comprises an amino acid sequence which is substantially as depicted in SEQ ID NO:~~—~~1~~ sequence identifier~~, starting at the Met residue in position 1 and finishing at the Glu residue in position 158.

8. (currently amended) A ~~P~~polypeptide according to claim 7, ~~characterized in that~~wherein the native CDase comprises an amino acid sequence as depicted in SEQ ID NO:—1 ~~sequence identifier~~, starting at the Met residue in position 1 and finishing at the Glu residue in position 158.

9. (currently amended) A ~~P~~polypeptide according to claim 6, ~~characterized in that~~wherein it comprises an amino acid sequence which is substantially as depicted in SEQ ID NO:~~—~~1~~ sequence identifier~~, starting at the Met residue in position 1 and finishing at the Val residue in position 373.

10. (currently amended) A ~~P~~polypeptide according to claim 9, ~~characterized in that~~ wherein it comprises an amino acid sequence as depicted in SEQ ID NO:~~——~~1~~ sequence identifier~~, starting at the Met residue in position 1 and finishing at the Val residue in position 373.

11. (currently amended) A ~~P~~polypeptide according to ~~one of~~ claim~~s~~ 1~~ to 10~~, ~~characterized in that it exhibits~~ exhibiting a CDase activity which is higher than that of said native CDase.

12. (currently amended) A ~~N~~nucleotide sequence which encodes a polypeptide according to ~~one of~~ claim~~s~~ 1~~ to 11~~.

13. (currently amended) A ~~R~~recombinant vector which carries a nucleotide sequence according to claim 12, placed under the control of the elements which are required for expressing it in a host cell.

14. (currently amended) A ~~R~~recombinant vector according to claim 13, ~~characterized in that~~wherein said vector is selected from the group consisting of plasmid and viral vectors, where appropriate combined with one or more substances which improve(s) the transfectional efficacy and/or the stability of the vector.

15. (currently amended) A ~~R~~recombinant vector according to claim 14, wherein said substance which improve~~s~~ the transfectional efficacy and/or the stability of the vector is selected from the group comprising cationic lipids, cationic polymers, lysophospholipides and polypeptides.

16. (currently amended) A ~~R~~recombinant vector according to claim 14, ~~characterized in that~~wherein said vector is a viral vector which is derived from a pox virus, from an adenovirus, from a retrovirus, from a herpes virus, from an alphavirus, from a foamyvirus or from an adenovirusassociated virus.

17. (currently amended) A Rrecombinant ~~Vector~~ vector according to claim 16, ~~characterized in that~~wherein said vector is derived from a Modified Vaccinia Ankara (MVA) virus.

18. (currently amended) A Rrecombinant ~~Vector~~ vector according to claim 17, ~~characterized in that~~wherein ~~the~~ said nucleotide sequence ~~according to claim 12~~ is inserted at a site of a naturally occurring deletion within the MVA genome selected from the group consisting in deletion I, II, III, IV, V and VI.

19. (currently amended) A Rrecombinant vector according to claim 18, wherein the site of the naturally occurring deletion is deletion III.

20. (currently amended) A Rrecombinant vector according to ~~one of~~ claim~~s~~ 13~~ to 19~~, ~~characterized in that~~wherein the elements which are required for the expression comprise a promoter.

21. (currently amended) A Rrecombinant vector according to claim 20, ~~characterized in that~~wherein the promoter is the promoter of the thymidine kinase 7.5K gene.

22. (currently amended) A Rrecombinant vector according to claim 16, ~~characterized in that~~wherein said vector is an adenoviral vector which lacks all or part of at least one region which is essential for replication and which is selected from the E1, E2, E4 and L1-L5 regions.

23. (currently amended) A ~~R~~recombinant vector according to claim 22, ~~characterized in that~~wherein said vector is an adenoviral vector which additionally lacks all or part of the non-essential E3 region.

24. (currently amended) A ~~R~~recombinant vector according to claim 20, ~~characterized in that~~wherein said promoter is the cytomegalovirus (CMV) early promoter.

25. (currently amended) A ~~R~~recombinant vector according to ~~one of~~ claims 13~~ to 24~~, ~~characterized in that it~~ additionally ~~comprises~~ comprising one or more genes of interest which is/are selected from the genes encoding interleukins IL-2, IL-4, IL-7, IL-10 and IL-12, interferons, tumor necrosis factor (TNF), colony stimulating factors (CSF) and factors acting on angiogenesis.

26. (currently amended) A ~~R~~recombinant vector according to claim 25, ~~characterized in that~~ wherein the gene of interest encodes a polypeptide which is selected from IL-2 and INFγ.

27. (currently amended) A ~~P~~process for preparing a viral particle, wherein:

(i) a recombinant vector according to ~~one of~~ claim~~s~~ 13 ~~to 25~~ is introduced into a complementing cell which is able to complement said vector in trans so as to obtain a transfected complementing cell,

(ii) said transfected complementing cell is cultured under conditions which are appropriate for enabling said viral particle to be produced, and

(iii) said viral particle is recovered from the cell culture.

28. (currently amended) A ~~V~~viral particle which comprises a recombinant vector according to ~~one of~~ claim~~s~~ 13 ~~to 26 or was obtained in accordance with the process according to claim 27~~.

29. (currently amended) A ~~H~~host cell which comprises a nucleotide sequence according to claim 12 ~~or a recombinant vector according to one of claims 13 to 26, or which is infected with a viral particle according to claim 28~~.

30. (currently amended) A ~~C~~composition which comprises a polypeptide according to ~~one of~~ claim~~s~~ 1 ~~to 11, a nucleotide sequence according to claim 12, a recombinant vector according to one of claims 13 to 26, a viral particle according to claim 28 or a host cell according to claim 29~~, in combination with a pharmaceutically acceptable excipient.

31. (currently amended) A ~~C~~composition according to claim ~~29~~30, ~~characterized in that it comprises~~ further comprising ~~a polypeptide according to one of claims 1 to 11 and~~ a second polypeptide of interest~~, in particular a polypeptide selected from IL-2 and INFγ~~.

32. (canceled)

33. (canceled)

34. (canceled)

35. (currently amended) A ~~M~~method for treating a diseases~~s~~ by gene therapy, ~~characterized in that~~wherein a nucleotide sequence according to claim 12~~, a recombinant vector according to one of claims 13 to 26, a viral particle according to claim 28 or a host cell according to claim 29~~ is administered to an organism or a host cell which is in need of such a treatment.

36. (currently amended) A ~~M~~method according to claim 35~~, or therapeutic use according to claim 33 or 34~~, wherein pharmaceutically acceptable quantities of a prodrug, ~~advantageously an analog of cytosine, in particular 5-FC,~~ are administered to said host organism or cell.

37. (new) A method according to claim 35 wherein said disease is selected from the group consisting of cancers, tumors and diseases which result from unwanted cell proliferation.

38. (new) A polypeptide according to claim 6, wherein the native CDase is encoded by the *Saccharomyces cerevisae FCY1* gene.

39. (new) A viral particle which was obtained in accordance with a process according to claim 27.

40. (new) A host cell which comprises a recombinant vector according to claim 13.

41. (new) A host cell which is infected with a viral particle according to claim 28.

42. (new) A composition which comprises a nucleotide sequence according to claim 12, in combination with a pharmaceutically acceptable excipient.

43. (new) A composition according to claim 42, further comprising a second nucleotide sequence of interest that encodes IL-2 or INFγ.

44. (new) A composition which comprises a recombinant vector according to claim 13, in combination with a pharmaceutically acceptable excipient.

45. (new) A composition which comprises a viral particle according to claim 28, in combination with a pharmaceutically acceptable excipient.

46. (new) A composition which comprises a host cell according to claim 29, in combination with a pharmaceutically acceptable excipient.

47. (new) A composition according to claim 31 wherein said second polypeptide of interest is selected from IL-2 and IFNγ.

48. (new) A method for treating a disease by gene therapy, wherein a recombinant vector according to claim 13 is administered to an organism or a host cell which is in need of such treatment.

49. (new) A method for treating a disease by gene therapy, wherein a viral particle according to claim 28 is administered to an organism or a host cell which is in need of such treatment.

50. (new) A method for treating a disease by gene therapy, wherein a host cell according to claim 29 is administered to an organism or a host cell which is in need of such treatment.

51. (new) A method according to claim 36, wherein said prodrug is an analog of cytosine.

52. (new) A method according to claim 51, wherein the cytosine analog is 5-FC.